



DIVISION OF  
CORPORATION FINANCE  
MAIL STOP 3561

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549-3561

December 1, 2008

*By U.S. mail and facsimile*

Mr. Corey Conn  
Chief Financial Officer  
Imagin Molecular Corporation  
104 West Chestnut Street  
Suite 315  
Hinsdale, Illinois 60521

**Re:   Imagin Molecular Corporation  
      Form 10-KSB/A for Fiscal Year Ended December 31, 2007  
      Filed November 10, 2008  
      Response Letter Dated October 28, 2008  
      File No. 000-23873**

Dear Mr. Conn:

We have reviewed your filings and response letter and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

General

1. We remind you to provide the acknowledgments listed in the closing comments of this letter.

Form 10-KSB/A for the Fiscal Year Ended December 31, 2007

Management's Report on Internal Control over Financial Reporting, page 15

2. In light of your restatements for periods ended September 30, 2007, December 31, 2007, March 31, 2008 and June 30, 2008, please advise us of your reconsideration with respect to your conclusion of effectiveness of internal controls over financial reporting. In this regard, disclose the following:
  - a) The impact of the restatement on your assessment of the effectiveness of disclosure controls and procedures and internal control over financial reporting.
  - b) Whether the weaknesses that led to the restatement constituted one or more material weaknesses.
  - c) A description of the corrective actions that you have taken or plan to take.

Consolidated Balance Sheets, page 25

3. We note your response to comment 2 of our letter dated June 17, 2008, in which Mr. Rooney has approved an amendment that increases the number of authorized shares of common stock that will be effective upon the twentieth day following the filing of a Form DEF 14C. It does not appear that settlement is within control of the Company as Mr. Rooney is not an employee of the Company. Furthermore, an increase in the authorized number of shares does not appear to have been effected. Thus, please tell us why you do not believe liability classification under EITF 00-19 would be appropriate. In addition, please expand your footnote 10 to describe when the preferred stock is convertible.

Notes to Consolidated Financial Statements, page 30

Note 5. Due from Related Party, page 34

4. We note that your balance for notes receivable from Positron was \$2,248,875 and \$1,346,000 at September 30, 2008 and December 31, 2007, respectively. We further note from review of Positron's filings that it experienced negative cash flows and operating losses in each of fiscal 2006, 2007 and the nine-months ended September 30, 2008. Please tell us whether you believe your note receivable is recoverable and explain to us in reasonable detail the basis for your determination.

Note 6. Imagin Diagnostic Centres Inc. Convertible Notes Receivable and Restatement, page 34

5. We note from the last paragraph of page 34 that as of December 31, 2007, the carrying value of your investment in Positron was \$1,368,486, which is higher than the then market value of \$272,000. Furthermore, the carrying value of your investment as of September 30, 2008, was \$1,251,430, which is higher than the then market value of \$308,000. Please tell us how you considered the guidance in paragraphs 6(b) and 19(h) of APB 18 in determining whether your investment in Positron has experienced an other-than-temporary impairment. If you determine that your investment is impaired, tell us the period in which you believe the impairment occurred and the basis for your determination.

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Closing Comments

As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

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Imagin Molecular Corporation  
December 1, 2008  
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You may contact Steve Lo at 202-551-3394 or Ryan Milne at 202-551-3688 if you have questions regarding these comments and related matters. Please contact me at 202-551-3871 with any other questions.

Sincerely,

Tia Jenkins  
Senior Assistant Chief  
Accountant  
Office of Beverages, Apparel  
and Health Care Services